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# Inductive and Deductive: Ambiguous Labels in Qualitative Content Analysis

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## Inductive and Deductive: Ambiguous Labels in Qualitative Content Analysis

### Abstract

The propounded dualism in Content Analysis as quantitative and qualitative approaches is widely supported and justified in nursing literature. Nevertheless, another sort of dualism is proposed for Qualitative Content Analysis, suggesting the adoption of "inductive" and/or "deductive" approaches in the process of qualitative data analysis. These approaches have been referred and labelled as "inductive" or "conventional"; and "deductive" or "directed" content analysis in the literature. Authors argue that these labels could be fallacious, and may lead to ambiguity; as in effect, both approaches are employed with different dominance during the process of any Qualitative Content Analysis. Thus, authors suggest more expressive, comprehensive, yet simple labels for this method of qualitative data analysis.

### Keywords

Inductive, Deductive, Qualitative Research, Content Analysis

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## **Inductive and Deductive: Ambiguous Labels in Qualitative Content Analysis**

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The dualism propounded in Qualitative Content Analysis (QCA), suggests the adoption of “inductive” or “deductive” approaches or modes of reasoning in the process of qualitative data analysis (Elo & Kyngäs, 2008; Mayring, 2014). The label “conventional” is given to QCA when the mode of reasoning is inductive; whereas, the labels “directed,” or “deductive” are assigned when deductive mode is adopted during the data analysis (Hsieh & Shannon, 2005; Mayring, 2000, 2014).

There is a subtle point here that could be misleading. In effect, both modes of inductive and deductive reasoning are simultaneously used in each QCA. Hence, assigning such static labels to QCA could be illogical, inexpressive, and ambiguous. Authors argue that the labels “inductive” or “conventional” are not literally equivalent; additionally, they do not reflect the both modes of inductive and deductive reasoning, inevitably employed in QCA. The same is true for the labels “deductive” or “directed,” which solely denote deductive mode of reasoning. In other words, labelling the QCA as "inductive" or "deductive" would imply that the analyst exclusively chooses one, and only one of the “inductive” or “deductive” reasoning modes during the data analysis.

The inductive (conventional) QCA is used when there is lack of, or limited previous theories or research findings (Elo & Kyngäs, 2008; Hsieh & Shannon, 2005; Mayring, 2000, 2014). In this approach, the analyst's mind is not entirely blank at the beginning of the study; instead, he has the research question(s), study aim(s), and/or some pertinent assumptions, practically directing his analysis (Harding, 2013; Schreier, 2014). This is an instance of deduction. Moreover, as the analysis progresses, new categories will emerge inductively, making tentative hypotheses (Thorne, 2000; Bernard, 2011). The analyst, then, would test or examine these hypotheses during the rest of the analysis process (Neuendorf, 2002). Such

testing, once again, is an instance of deduction. Hence, in what is referred as inductive QCA, the analyst inevitably employs both modes of reasoning, in a way that he/she begins with inductive mode, and as the new categories emerge, he/she uses both approaches, keeping the "induction" dominant.

On the other hand, the analyst uses the deductive (directed/framework) QCA when some views, previous research findings, theories, or conceptual frameworks regarding the phenomenon of interest exist (Elo & Kyngäs, 2008; Hsieh & Shannon, 2005; Mayring, 2014). The researcher begins the analysis, using the pre-existing categories (analysis matrix) imposed by the theory or previous research findings, which is clearly the instance of deduction. However, when some coded segments of the text do not fit the categorization matrix, it is possible for new categories to be "inductively" created or emerged (Elo & Kyngäs, 2008); which is the instance of induction; though it is less dominant than deduction.

As it can be seen, the analyst accomplishes the qualitative data analysis, using both the inductive and deductive approaches, concurrently, but with different dominancy. In other words, the researcher's mind constantly switches between the induction and deduction modes of reasoning during a QCA (Harding, 2013). Thus, authors believe that labelling QCA with the labels "inductive" and/or "deductive" could be fallacious and misleading.

Among the introduced labels of QCA in the literature, "directed" seems to be more justified, because it denotes that the analysis is guided by existing theory or knowledge. Whereas, the label "conventional" is not expressive enough and does not make scientific sense. Having a broad scope of meaning, the latter does not literally convey a definite methodological approach, and could even call to mind the "quantitative" content analysis, because the content analysis traditionally has begun with quantitative approach (Krippendorff, 2004).

In sum, use of labels such as "inductive," "conventional," and "deductive," may cause fallacy in audiences' mind, particularly novice researchers. Application of clarified and precise labels is strongly recommended in the scientific literature. Moreover, labels should not be static, and must be dynamically reconsidered based on the new knowledge, experiences, and perceptions (Meleis, 2011). Therefore, it is imperative to replace current labels of QCA with new comprehensive and expressive, yet simple labels, such as "inductive-dominant QCA" and "deductive-dominant QCA."

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